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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/651,288 | 08/30/2000 | Hidefumi Yoshida | 0610.64705 | 2568 |

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EXAMINER

NGUYEN, CHANH DUY

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2675 | 18 |

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/651,288

Applicant(s)

YOSHIDA ET AL.

Examiner

Chanh Nguyen

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 and 60-113 is/are pending in the application.
- 4a) Of the above claim(s) 1-49, 54 and 61-113 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 50-53, 55-58 and 60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The amendment filed on November 6, 2003 has been entered and considered by examiner.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 50 and 57 are rejected under 35 U.S.C. 102(e) as being anticipated by Akimoto et al (U.S. Patent No. 6,329,973).

As to claim 50, Akimoto discloses a liquid crystal display device including a liquid crystal panel in which a plurality of signal lines (45) for transmitting display data and a plurality of scanning lines (50) for transmitting controlling signals being laid out vertically and horizontally, a pixel electrodes (49) being arranged at intersections of the signal lines (45) and the scanning lines (50) via switching elements (48); see Figure 2.

Art Unit: 2675

Akimoto teaches the device having a hold control function (i.e. function of still image) in which an image to be displayed being output in one entire frame period (e.g., displayed still image on from a first row and a eighth row), and an impulse control function (a function of moving picture) in which an image to be displayed being output in a predetermined period (i.e. a period from a third row to a sixth row) within one frame period (a period from a first row to eighth row); see Figure 3 and see column 3, lines 22-27. It is clear that the image to be displayed in moving area (hold control function) of Akimoto is not outputted during a remaining period within the one frame period because the image data inputs image data of only rows including a part called moving picture part (see column 1, lines 53-56). Akimoto clearly teaches the output of the image being done in units of pixel electrodes (49) connected to at least one of the scanning lines (50).

Akimoto clearly teaches the hold control carried out when the displayed image being a still image and the impulse control being carried out when the displayed image being a moving image (see column 3, lines 22-27). The limitation "shown with all pixels electrodes" is taught by Akimoto because each of pixels (49) of Akimoto is formed by a pixel electrode and common electrode. Thus, the image either still or moving displayed by all the pixel electrodes in its areas.

While the device to Akimoto is unlike applicant's disclosed device it reads on applicant's broad claimed language.

As to claim 57, Akimoto clearly teaches the switching elements (48) being polysilicon TFTs (Thin Film Transistors); see column 3, lines 55-56.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 51-52 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Matsuzaki et al (U.S. Patent No. 5,644,332).

As to claim 51, note the discussion of Akimoto above, Akimoto does not mention the holding control being switched to the impulse control in the case where a ratio of the moving image to all the display data exceeding a predetermined value. Matsuzaki teaches that "when the total number of scan lines on the display screen of the FLCD 26 is equal to 1312, if $N1 = 1000$ and the count value of the counter 513 is larger than $N1$,

Art Unit: 2675

it is detected that the display mode which is executed by the CPU 11 is scrolled display mode" (see column 8, lines 13-17). Thus, Matsuzaki clearly teaches switching to the moving mode (i.e. scrolling display mode) from the still image (i.e. display mode) once the display data exceeds a predetermined value (i.e. 1000). This reads on the claimed limitation " the holding control being switched to the impulse control in the case where a ratio of the moving image to all the display data exceeding a predetermined value" as recited in claim. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have provided the teaching of switching from the still image to moving image as taught by Matsuzaki to the moving image device of Akimoto so that a rewriting operation performs at a relatively high speed on the whole display screen (see column 2, lines 30-44 of Matsuzaki).

As to claim 52, the limitation "when the display data makes changes for over a period of two or more frame" is taught by Matsuzaki. For example, Matsuzaki teaches that an image is to be moved if N1 is greater than 1000. Thus if N1 = 2624 which is twice of scan lines on the screen or two frames, then the image is moving from the display mode. This reads on the claimed limitation.

As to claim 58, this claim is analyzed as previously discussed with respect to claim 52 above since it recites similar limitations as claim 51 does.

6. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Numao (U.S. Patent No. 5,103,328).

Art Unit: 2675

As to claim 53, note the discussion of Akimoto above, Akimoto does not mention a shutter facing the liquid crystal display panel. Numao teaches a shutter (21) inserted between a matrix display panel 20 and a light source 19; see Figure 2 and see column 4, lines 25-27. Thus, Numao clearly teaches the shutter (21) faces to liquid crystal panel (20) as broad claimed language. The claim does not required the shutter arranged on the front surface of the liquid crystal. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have added the shutter as taught by Numao to the liquid crystal panel of Akimoto so as to prevent the display from flickering when the image is moving; see column, 2, line 66 to column 3, line 12 of Numao.

7. Claims 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Terasaki (U.S. Patent No. 5,844,540).

As to claims 55-56, note the discussion of Akimoto above, Akimoto does not mention the brightness of the backlight being increased in the impulse control than in the hold control. Terasaki teaches 1) a user can manually adjust the brightness of the display via backlight (see column 10,lines 9-12) 2) the brightness of slow motion reproduction and still reproduction is recognized (see column 29-34) 3) brightness of the video image of the television system (moving image) and character image CG (still image) can be adjusted (see column 28,line 1-39). Thus, Terasaki clearly suggests that the brightness of the moving image and the still image can be either adjusted different from each other through the PWM dimmer section (i.e. backlight can be increased

Art Unit: 2675

through the PWM in video mode) or adjusted equally. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have added the PWM dimmer section as taught by Terasaki to the backlight of Akimoto so that an occurrence of flicker and flutter can be prevented effectively (see column 6, lines 32-40 of Terasaki).

8. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Kamikura et al (U.S. Patent No. 6,266,370).

As to claim 60, note the discussion of Akimoto above, Akimoto does not mention motion compensation. Kamikura teaches motion compensation (e.g., 10, 12) including Discrete Cosine Transform (DCT 12). Kamikura teaches the moving image including vector information indicating image motion (see column 9, lines 27-65). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have added motion compensation section as taught by Kakimura to the moving generating circuit of Akimoto so that the variation of the brightness of the moving image can be compensated (see column 4, lines 11-17 of Kakimura).

Response to Arguments

9. Applicant's arguments filed April 15, 2003 have been fully considered but they are not persuasive.

On page 38, third paragraph, applicant argues that Akimoto does not disclose or suggests anything about how the moving picture and still picture function within one frame period. Examiner totally disagrees with applicant this point of view if the screen

Art Unit: 2675

has eight rows as shown in Figure 3 of Akimoto, the scanning signals scan from a first row to eight row so that image either still or moving can be displayed. Thus the period scanning from row one to row eight is call frame period. If Akimoto does not discloses the moving picture and still picture function within one frame period, then how the image in Akimoto is displayed on the screen. The screen of Akimoto is not projected screen which does not need scanning signals. The screen of Akimoto is direct view active matrix LCD screen including scanning lines and data lines. Applicant is correct that a "period" is not a space, it is timing. Examiner does not interprets the timing is the space as applicant' argument. Examiner states in the office action that it is a period form first row to eight row).

On page 39, first and second paragraph, applicant argues that Akimoto neither teaches or suggests anything about outward display image bind in units of pixel electrodes connected to the scanning lines. Examiner disagrees with applicant because each of pixels (49) of Akimoto is formed by a pixel electrode and common electrode. The pixel electrode is connected to scanning lines (50) as shown in figure 2. Applicant also argues that Akimoto fail to teach or suggest that either of its moving picture or still picture is shown with all pixel electrodes. Again, each of pixels (49) of Akimoto is formed by a pixel electrode and common electrode. Thus, the image either still or moving displayed by all the pixel electrodes in its areas.

On page 39,last paragraph, applicant argues that "different frame rates" in Akimoto is not which row of the frame the moving image data and the still image data are displayed. However, one frame of Akimoto includes first row to eight row.

Art Unit: 2675

On page 40, first paragraph, applicant argues that "a featured in the present invention, one frame period is recited to be the same and therefore have the same length, for both the hold control and the impulse control functions. However, the claim does not recite one frame period is to be the same and have the same length, for both the hold control and the impulse control functions". The claim only requires "within the one frame period". Thus, even a moving picture is portion of the frame period (first row to eight row period), it reads on the claimed "within the one frame period.

On page 40, second paragraph, applicant argues "hold control and impulse control are not carried out at the same time according the present invention". Again this limitation is not recited in the claim. The limitation "all pixel electrodes" is so broad that it reads on each of pixels (49) of Akimoto is formed by a pixel electrode and common electrode. Thus, the image either still or moving displayed by all the pixel electrodes in its area.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603.

If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Steven Saras can be reached at 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:


(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA, Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

C. Nguyen
February 20, 2004


CHANH NGUYEN
PRIMARY EXAMINER